Subject Index

Aircraft Technology, Conventional, STOL/VTOL

Aerodynamics

Some Effects of Interference Flowfields on Supersonic Configurations C87-141
Supersonic Airfoil Optimization C87-140
Experimental Investigation of Rotorcraft Hub and Shaft Fairing Drag Reduction C87-138
Planform Effects for Low-Fineness-Ratio Multibody Configurations at Supersonic Speeds C87-137
Angle-of-Attack Estimation for Analysis of Wind Shear Encounters C87-129
Experimental Flowfield Study on a Supercritical Airfoil C87-128
Vortex Sheet Modeling with Curved Higher-Order Panels C87-127
Lift-Curve Characteristics for an Airfoil Pitching at Constant Rate C87-114
Aerodynamic Effects of Distributed Spanwise Blowing on a Fighter Configuration C87-113
Solution of Aerodynamic Intergral Equations Without Matrix Inversion C87-111
Lift and Pitching Moment Coefficient Changes from Low-Level Freestream Turbulence C87-110
Leading-and Trailing-Edge Flaps on a Low Reynolds Number Airfoil C87-108
Influence of Forebody Cross-Sectional Shape on Wing Vortex-Burst Location C87-107
Rain Effects at Low Reynolds Number C87-106
Investigations of Unsteady Subsonic Spoiler and Flap Aerodynamics C87-105
Wave Drag Analysis of Realistic Fighter Aircraft Using a Full-Potential Method C87-104
Lift of an Airfoil with a Jet Issuing from Its Surface C87-094
Low Reynolds Number Effects on Subsonic Compressibility Corrections C87-092
Low Reynolds Number Tests of NACA 64-210, NACA 0012, and Wortmann FX67-K170 Airfoils in Rain C87-091
Application of the TranAir Full-Potential Code to the F-16A C87-088
Aerodynamic Characteristics of Biplanes with Winglets C87-085
Optimization of Wing Tip Store Modeling C87-084
Survivability/Vulnerability Information Analysis Center (SURVIAC): A Tool for the Aircraft Survivability Community C87-083
Effect of a Round Airfoil Nose on Leading-Edge Suction C87-071
Prospects for Destructive Self-Induced Interactions in a Vortex Pair C87-065
Optimum Flap Schedules and Minimum Drag Envelopes for Combat Aircraft C87-060
Thick Supercritical Airfoils with Low Drag and Natural Laminar Flow C87-059
Effect of Ambient Turbulence on Trailing Vortices C87-058
Improvements on a Green's Function Method for the Solution of Linearized Unsteady Potential Flows C87-052
Analysis of a Delta Wing with Leading-Edge Flaps C87-051
Nonlinear Vibration and Stability of Rotating, Pretwisted, Preconed Blades Including Coriolis Effects C87-050
Experimental Flowfield Visualization of a High Alpha Wing at Mach 1.62 C87-049
Normal-Force Characteristics of Sharp-Edged Delta Wings at Supersonic Speeds C87-048
Prediction of Subsonic Wind Tunnel Mounting System Interference C87-046
Experimental Study of Airfoil Performance with Vortex Generators C87-044
Velocities Induced by Semi-Infinite Helical Vortex Filaments C87-041
Applications of Similitude in Airship Design C87-040
Propeller Swirl Effect on Single-Engine General-Aviation Aircraft Stall-Spin Tendencies C87-039
Forebody Vortex Management for Yaw Control at High Angles of Attack C87-032
Wing and Conical Body of Arbitrary Cross Section in Supersonic Flow C87-031
Euler Calculations for Flowfield of a Helicopter Rotor in Hover C87-030
Spanwise Pressure Distribution on Delta Wing with Leading-Edge Vortex Flap C87-028
Fast Viscous Correction Method for Full-Potential Transonic Wing Analysis C87-026
Wing-Wing Interference Effects for Cruciform Missiles C87-025
Transonic Wave Drag Estimation and Optimization Using the Nonliear Area Rule C87-024
Euler Solutions for Aircraft Configurations Employing Upper-Surface Blowing C87-022
PAN AIR Analysis of a Transport High-Lift Configuration C87-021
Effect of Sink Rate on Ground Effect of Low-Aspect-Ratio Wings C87-020
Numerical Solution of the Downwash Associated with a Blown-Flap System C87-019
Effect of Reynolds Number on Upper Cowl Flow Separation C87-018
Advanced Method for Computing Flow Around Wings with Rear Separation and Ground Effect C87-017
Induced-Drag Characteristics of Crescent-Moon-Shaped Wings C87-015
Aerodynamic Testing at Low Reynolds Numbers C87-014
Direct-Inverse Method for Airfoils at High Angles of Attack C87-013
Effect of Strakes on the Autorotational Characteristics of Noncircular Cylinders C87-012
Euler Solver for Three-Dimensional Supersonic Flows with Subsonic Pockets C87-011
Noise from a Circulation Control Wing with Upper Surface Blowing C87-009
Nonplanar, Supersonic, Three-Dimensional, Oscillatory, Piecewise Continuous-Kernel Function Method C87-008
Section Characteristics of a Finite, Swept Circulation Control Airfoil C87-007
Scaling Laws for Testing Airfoils Under Heavy Rainfall C87-006
Reflections Regarding Recent Rotary Rig Results C87-005
Transonic Wing Flows Using an Euler/Navier-Stokes Zonal Approach C87-004
Inverse Aerodynamic Design Method for Aircraft Components C87-002
Body of Revolution Comparisons for Axial- and Surface-Singularity Distributions C86-102
Numerical Optimization Design of Advanced Transonic Wing Configurations C86-029
Wind Shear Terms in the Equations of Aircraft Motion C84-145

Aeroelasticity

Analysis of Unsteady Aerodynamics for Elastic Bodies in Supersonic Flow C87-134
Aeroelastic Tailoring of Aft-Swept High-Aspect-Ratio Composite Wings C87-132
Aeroelastic Stability Characteristics of a Composite Swept Wing with Tip Weights for an Unrestrained Vehicle C87-130
Constant Pressure Panel Method for Supersonic Unsteady Airload Analysis C87-116
Transonic Aeroelasticity of Wings with Tip Stores C87-115
Lift-Curve Characteristics for an Airfoil Pitching at Constant Rate C87-114
Aeroelastic Oscillations Caused by Transitional Boundary Layers and Their Attenuation C87-069
Experimental Aeroelastic Behavior of Forward-Swept Graphite/Epoxy Wings with Rigid-Body Freedom C87-068
Improvements on a Green's Function Method for the Solution of Linearized Unsteady Potential Flows C87-052
Measured Unsteady Transonic Aerodynamic Characteristics of an Elastic Supercritical Wing C87-029
Nonplanar, Supersonic, Three-Dimensional, Oscillatory, Piecewise Continuous-Kernel Function Method C87-008
Bending Effects on Structural Dynamic Instabilities of Transonic Wings C84-151

Avionics Systems

New Technological Considerations That Improve Avionic Reliability C87-082
Automated Thermal and Reliability Analysis of Avionics Designs C87-081

Cabin Environment, Crew Training, and Life Support

Laboratory Study of Sidewall Noise Transmission and Treatment for a Light Aircraft Fuselage C87-109
New Technological Considerations That Improve Avionic Reliability C87-082

Civil Missions and Transportation

Pilot Evaluation of Population-Minimal Ground Tracks in the Airport Community C87-101

Configuration Design

Experimental Investigation of Rotorcraft Hub and Shaft Fairing Drag Reduction C87-138
Multimission STOVL Application of a Hybrid Powered-Lift System C87-063

Optimum Flap Schedules and Minimum Drag Envelopes for Combat Aircraft C87-060
Induced-Drag Characteristics of Crescent-Moon-Shaped Wings C87-015

Deceleration Systems

Measured and Calculated Stress in a Ribbon Parachute Canopy C87-010

Flight Operations

Pilot Evaluation of Population-Minimal Ground Tracks in the Airport Community C87-101
Takeoff and Landing in a Downburst C87-090

General Aviation

Laboratory Study of Sidewall Noise Transmission and Treatment for a Light Aircraft Fuselage C87-109
Low Reynolds Number Tests of NACA 64-210, NACA 0012, and Wortmann FX67-K170 Airfoils in Rain C87-091
Propeller Swirl Effect on Single-Engine General-Aviation Aircraft Stall-Spin Tendencies C87-039

Guidance and Control

Jet Spoiler as a Yaw Control Device C87-102
Takeoff and Landing in a Downburst C87-090
Spherical Mapping and Analysis of Aircraft Angles for Maneuvering Flight C87-086
Forebody Vortex Management for Yaw Control at High Angles of Attack C87-032

Handling Qualities, Stability and Control

Vortex Sheet Modeling with Curved Higher-Order Panels C87-127
Aerodynamic Effects of Distributed Spanwise Blowing on a Fighter Configuration C87-113
Jet Spoiler as a Yaw Control Device C87-102
Spherical Mapping and Analysis of Aircraft Angles for Maneuvering Flight C87-086
Nonlinear Vibration and Stability of Rotating, Pretwisted, Preconed Blades Including Coriolis Effects C87-050
Effect of Strakes on the Autorotational Characteristics of Noncircular Cylinders C87-012

Helicopters

Experimental Investigation of Rotorcraft Hub and Shaft Fairing Drag Reduction C87-138
Euler Calculations for Flowfield of a Helicopter Rotor in Hover C87-030
Concepts for Reduction of Blade/Vortex Interaction Noise C87-016

Landing Dynamics

Effect of Sink Rate on Ground Effect of Low-Aspect-Ratio Wings C87-020

Lighter-than-Airships

Applications of Similitude in Airship Design C87-040

Military Missions

Multimission STOVL Application of a Hybrid Powered-Lift System C87-063
Bombing Error Sensitivities Using a Simplified Aerodynamic Trajectory C87-061

Navigation, Communication, and Traffic Control

Oklahoma Weather Phenomena That May Affect Aviation C87-045

Noise

Ground Plane Microphone for Measurement of Aircracft Flyover Noise C87-124
Structural Influence of the Cabin Floor on Sound Transmission into Aircraft--Analytical Investigations C87-121
Laboratory Study of Sidewall Noise Transmission and Treatment for a Light Aircraft Fuselage C87-109
Acoustic Mode Measurements in the Inlet of a Turbofan Engine C87-099
Detection of In-Flight Propeller-Induced Structure-Borne Noise C87-066
Importance of Broadband Noise for Advanced Turboprops C87-056

Performance

Reducing Fuel Consumption of Subsonic Aircraft by Optimal Cyclic Cruise C87-103
Multimission STOVL Application of a Hybrid Powered-Lift System C87-063
Applications of Similitude in Airship Design C87-040
Spanwise Pressure Distribution on Delta Wing with Leading-Edge Vortex Flap C87-028

Propeller and Rotor Systems

Application of a Panel Code to Unsteady Wing-Propeller Interference C87-093
Importance of Broadband Noise for Advanced Turboprops C87-056
Velocities Induced by Semi-Infinite Helical Vortex Filaments C87-041
Propeller Swirl Effect on Single-Engine General-Aviation Aircraft Stall-Spin Tendencies C87-039

Simulation

Accurate Estimation of Aircraft Inertia Characteristics from a Single Suspension Experiment C87-053
Turbulence Structure in Microburst Phenomena C87-038
A Ring-Vortex Downburst Model for Flight Simulations C86-035

Stealth

Effect of Reynolds Number on Upper Cowl Flow Separation C87-018

Structural Design (including Loads)

Reduction of the Ultimate Factor by Applying a Maximum Load Concept C87-125
Role of Data Base Management in Design Optimization Systems C87-123
Transonic Aeroelasticity of Wings with Tip Stores C87-115
Structural Dynamics in a Full-Scale Transport Aircraft Crash Test C87-067
Shaping of Airplane Fuselages for Minimum Drag C87-043
Durability Under Repeated Buckling of Stiffened Shear Panels C87-001

Subsystem Design

A Heater Made from Graphite Composite Material for Potential Deicing Application C87-120

Testing, Flight and Ground

Rain Effects at Low Reynolds Number C87-106
Structural Dynamics in a Full-Scale Transport Aircraft Crash Test C87-067
Detection of In-Flight Propeller-Induced Structure-Borne Noise C87-066
Experiments with an Adaptable-Wall Wind Tunnel for Large Lift C87-054
Prediction of Subsonic Wind Tunnel Mounting System Interference C87-046
Experimmental Study of Airfoil Performance with Vortex Generators C87-044
Computational Method for Screened Two-Dimensional Wind Tunnel Inlets C87-037
Wing-Wing Interference Effects for Cruciform Missiles C87-025
Aerodynamic Testing at Low Reynolds Numbers C87-014

Vibration

Damping in Beams with Multiple Dry Friction Supports C87-133
Structural Influence of the Cabin Floor on Sound Transmission into Aircraft--Analytical Investigations C87-121
Response of Double-Wall Composite Shells to Random Point Loads C87-035

Energy

Combustion

Pool Fires in a Simulated Aircraft Cabin Interior with Ventilation C87-070

Wind Power

Doublet-Panel Method for Half-Model Wind-Tunnel Corrections C87-047

Fluid Dynamics

Experimental Flowfield Study on a Supercritical Airfoil C87-128

Aeroacoustics

Ground Plane Microphone for Measurement of Aircracft Flyover Noise C87-124
Acoustic Mode Measurements in the Inlet of a Turbofan Engine C87-099
Detection of In-Flight Propeller-Induced Structure-Borne Noise C87-066
Importance of Broadband Noise for Advanced Turboprops C87-056
Experimmental Study of Airfoil Performance with Vortex Generators C87-044
Concepts for Reduction of Blade/Vortex Interaction Noise C87-016

Boundary Layers and Convective Heat Transfer-Laminar

Experimental Investigation of Laminar Separation Bubbles and Comparison with Theory C87-042

Boundary Layers and Convective Heat Transfer-Turbulent

Vortex Unwinding in a Turbulent Boundary Layer C87-027
Fast Viscous Correction Method for Full-Potential Transonic Wing Analysis C87-026

Boundary-Layer Stability and Transition

Efficient Self-Consistent Viscous-Inviscid

Solutions for Unsteady Transonic Flow C87-122
Transition on Swept Leading Edges at Mach 3.5 C87-118
Low Reynolds Number Tests of NACA 64-210, NACA 0012, and Wortmann FX67-K170 Airfoils in Rain C87-091
Aeroelastic Oscillations Caused by Transitional Boundary Layers and Their Attenuation C87-069
Thick Supercritical Airfoils with Low Drag and Natural Laminar Flow C87-059

Computational Methods

Algebraic Grid Generation about Wing-Fuselage Bodies C87-139
Unsteady Transonic Flows Past Airfoils Using the Euler Equations C87-112
Solution of Aerodynamic Intergral Equations Without Matrix Inversion C87-111
Wave Drag Analysis of Realistic Fighter Aircraft Using a Full-Potential Method C87-104
Calculation of Flow over Multielement Airfoils at High Lift C87-089
Application of the TranAir Full-Potential Code to the F-16A C87-088
Optimization of Wing Tip Store Modeling C87-084
Thick Supercritical Airfoils with Low Drag and Natural Laminar Flow C87-059
Calculation of Transonic Steady and Oscillatory Pressures on a Low Aspect Ratio Model C87-057
Accurate Numerical Solutions for Transonic Viscous Flow over Finite Wings C87-055
Euler Calculations for Flowfield of a Helicopter Rotor in Hover C87-030
Euler Solutions for Aircraft Configurations Employing Upper-Surface Blowing C87-022
PAN AIR Analysis of a Transport High-Lift Configuration C87-021
Advanced Method for Computing Flow Around Wings with Rear Separation and Ground Effect C87-017
Direct-Inverse Method for Airfoils at High Angles of Attack C87-013
Euler Solver for Three-Dimensional Supersonic Flows with Subsonic Pockets C87-011
Transonic Wing Flows Using an Euler/Navier-Stokes Zonal Approach C87-004
Euler Solutions for Transonic Flow Past a Fighter Wing C87-003
Inverse Aerodynamic Design Method for Aircraft Components C87-002
A Ring-Vortex Downburst Model for Flight Simulations C86-035
Numerical Optimization Design of Advanced Transonic Wing Configurations C86-029

Hydrodynamics

Analytical Determination of Propeller Performance Degradation Due to Ice Accretion C87-126
Body of Revolution Comparisons for Axial- and Surface-Singularity Distributions C86-102

Jets, Wakes, and Viscid-Inviscid Flow Interactions

Effect of Kármán Vortex Shedding on Airfoil Stall Flutter C87-135
Vortex Sheet Modeling with Curved Higher-Order Panels C87-127
Efficient Self-Consistent Viscous-Inviscid Solutions for Unsteady Transonic Flow C87-122
Lift of an Airfoil with a Jet Issuing from Its Surface C87-094
Calculation of Flow over Multielement Airfoils at High Lift C87-089
Prospects for Destructive Self-Induced Interactions in a Vortex Pair C87-065
Vortex Influence on Oscillating Airfoils at High Angle of Attack C87-064
Effect of Ambient Turbulence on Trailing Vortices C87-058
Experimental Investigation of Laminar Separation Bubbles and Comparison with Theory C87-042
Forebody Vortex Management for Yaw Control at High Angles of Attack C87-032
Numerical Solution of the Downwash Associated with a Blown-Flap System C87-019
Advanced Method for Computing Flow Around Wings with Rear Separation and Ground Effect C87-017
Section Characteristics of a Finite, Swept Circulation Control Airfoil C87-007

Nonsteady Aerodynamics

Effect of Kármán Vortex Shedding on Airfoil Stall Flutter C87-135
Analysis of Unsteady Aerodynamics for Elastic Bodies in Supersonic Flow C87-134
Prediction of Gust Loadings and Alleviation at Transonic Speeds C87-117
Constant Pressure Panel Method for Supersonic Unsteady Airload Analysis C87-116
Lift-Curve Characteristics for an Airfoil Pitching at Constant Rate C87-114
Unsteady Transonic Flows Past Airfoils Using the Euler Equations C87-112
Lift and Pitching Moment Coefficient Changes from Low-Level Freestream Turbulence C87-110
Investigations of Unsteady Subsonic Spoiler and Flap Aerodynamics C87-105
Application of a Panel Code to Unsteady Wing-Propeller Interference C87-093
Vortex Influence on Oscillating Airfoils at High Angle of Attack C87-064
Calculation of Transonic Steady and Oscillatory Pressures on a Low Aspect Ratio Model C87-057
Turbulence Structure in Microburst Phenomena C87-038
Measured Unsteady Transonic Aerodynamic Characteristics of an Elastic Supercritical Wing C87-029
Vortex-Induced Bending Oscillation of a Swept Wing C87-023
Effect of Sink Rate on Ground Effect of Low-Aspect-Ratio Wings C87-020
Nonplanar, Supersonic, Three-Dimensional, Oscillatory, Piecewise Continuous-Kernel Function Method C87-008
Euler Solutions for Transonic Flow Past a Fighter Wing C87-003

Nozzle and Channel Flow

Aerodynamic Effects of Distributed Spanwise Blowing on a Fighter Configuration C87-113
Computational Method for Screened Two-Dimensional Wind Tunnel Inlets C87-037

Subsonic Flow

Leading-and Trailing-Edge Flaps on a Low Reynolds Number Airfoil C87-108
Influence of Forebody Cross-Sectional Shape on Wing Vortex-Burst Location C87-107
Lift of an Airfoil with a Jet Issuing from Its Surface C87-094
Low Reynolds Number Effects on Subsonic Compressibility Corrections C87-092
Calculation of Flow over Multielement Airfoils at High Lift C87-089
Effect of Ambient Turbulence on Trailing Vortices C87-058
Prediction of Subsonic Wind Tunnel Mounting System Interference C87-046
Experimental Investigation of Laminar Separation Bubbles and Comparison with Theory C87-042
Computational Method for Screened Two-Dimensional Wind Tunnel Inlets C87-037
Wing-Wing Interference Effects for Cruciform Missiles C87-025
Vortex-Induced Bending Oscillation of a Swept Wing C87-023
PAN AIR Analysis of a Transport High-Lift Configuration C87-021
Induced-Drag Characteristics of Crescent-Moon-Shaped Wings C87-015
Direct-Inverse Method for Airfoils at High Angles of Attack C87-013

Supersonic and Hypersonic Flow

Supersonic Airfoil Optimization C87-140
Planform Effects for Low-Fineness-Ratio Multibody Configurations at Supersonic Speeds C87-137
Analysis of Unsteady Aerodynamics for Elastic Bodies in Supersonic Flow C87-134
Transition on Swept Leading Edges at Mach 3.5 C87-118
Wave Drag Analysis of Realistic Fighter Aircraft Using a Full-Potential Method C87-104
Normal-Force Characteristics of Sharp-Edged Delta Wings at Supersonic Speeds C87-048
Wing and Conical Body of Arbitrary Cross Section in Supersonic Flow C87-031

Transonic Flow

Efficient Self-Consistent Viscous-Inviscid Solutions for Unsteady Transonic Flow C87-122
Prediction of Gust Loadings and Alleviation at Transonic Speeds C87-117
Unsteady Transonic Flows Past Airfoils Using the Euler Equations C87-112
Application of the TranAir Full-Potential Code to the F-16A C87-088
Numerical Simulation of Transonic Separated Flows over Low-Aspect-Ratio Wings C87-087
Calculation of Transonic Steady and Oscillatory Pressures on a Low Aspect Ratio Model C87-057
Accurate Numerical Solutions for Transonic Viscous Flow over Finite Wings C87-055
Measured Unsteady Transonic Aerodynamic Characteristics of an Elastic Supercritical Wing C87-029
Fast Viscous Correction Method for Full-Potential Transonic Wing Analysis C87-026
Transonic Wave Drag Estimation and Optimization Using the Nonlinear Area Rule C87-024
Transonic Wing Flows Using an Euler/Navier-Stokes Zonal Approach C87-004
Euler Solutions for Transonic Flow Past a Fighter Wing C87-003
Numerical Optimization Design of Advanced Transonic Wing Configurations C86-029

Bending Effects on Structural Dynamic Instabilities of Transonic Wings C84-151

Viscous Nonboundary-Layer Flows

Low Reynolds Number Effects on Subsonic Compressibility Corrections C87-092

Interdisciplinary Topics

Analytical and Numerical Methods

Angle-of-Attack Estimation for Analysis of Wind Shear Encounters C87-129
Spherical Mapping and Analysis of Aircraft Angles for Maneuvering Flight C87-086
Bombing Error Sensitivities Using a Simplified Aerodynamic Trajectory C87-061
Nonlinear Vibration and Stability of Rotating, Pretwisted, Preconed Blades Including Coriolis Effects C87-050
Normal-Force Characteristics of Sharp-Edged Delta Wings at Supersonic Speeds C87-048

Atmospheric and Space Sciences

Oklahoma Weather Phenomena That May Affect Aviation C87-045
A Ring-Vortex Downburst Model for Flight Simulations C86-035

Computer Communications, Information Processing and Software

Role of Data Base Management in Design Optimization Systems C87-123

Computer Software

Role of Data Base Management in Design Optimization Systems C87-123

Human Factors

Pilot Evaluation of Population-Minimal Ground Tracks in the Airport Community C87-101

Reliability, Maintainability, and Logistics Support

New Technological Considerations That Improve Avionic Reliability C87-082
Translating Aircraft Reliability and Maintainability into Measures of Operational Effectiveness C87-080
Translating Supportability Requirements into Design Reality C87-079
Role of Supportability Engineering in the Design Process C87-078

Safety

Takeoff and Landing in a Downburst C87-090

Sensor Systems

Doppler Frequency Shift in a Refractive Atmosphere C87-098

State Estimation

Angle-of-Attack Estimation for Analysis of Wind Shear Encounters C87-129

Launch Vehicle and Missile (LV/M) Technology

Aerodynamics

Some Effects of Interference Flowfields on Supersonic Configurations C87-141

Missile Systems

Optimization of Wing Tip Store Modeling C87-084

Spacecraft Technology

Entry Vehicle Aerodynamic Heating

Aerothermodynamics of Transatmospheric Vehicles C87-100

Entry Vehicle Dynamics and Control

Hypervelocity Gliding Maneuvers C87-095

Entry Vehicle Mission Studies and Flight Mechanics

Hypervelocity Gliding Maneuvers C87-095

Space Station Systems, Manned

Response of Double-Wall Composite Shells to Random Point Loads C87-035

Testing, Flight and Ground

Ground Plane Microphone for Measurement of Aircracft Flyover Noise C87-124

Structural Mechanics and Materials

Aeroelasticity and Hydroelasticity

Effect of Kármán Vortex Shedding on Airfoil Stall Flutter C87-135
Aeroelastic Tailoring of Aft-Swept High-Aspect-Ratio Composite Wings C87-132
Aeroelastic Stability Characteristics of a Composite Swept Wing with Tip Weights for an Unrestrained Vehicle C87-130
Prediction of Gust Loadings and Alleviation at Transonic Speeds C87-117
Constant Pressure Panel Method for Supersonic Unsteady Airload Analysis C87-116
Transonic Aeroelasticity of Wings with Tip Stores C87-115
Aeroelastic Oscillations Caused by Transitional Boundary Layers and Their Attenuation C87-069
Experimental Aeroelastic Behavior of Forward-Swept Graphite/Epoxy Wings with Rigid-Body Freedom C87-068
Improvements on a Green's Function Method for the Solution of Linearized Unsteady Potential Flows C87-052
Vortex-Induced Bending Oscillation of a Swept Wing C87-023

Materials, Properties of

Residual Stresses in 2024-T81 Aluminum Using Caustics and Moiré Interferometry C87-072

Structural Composite Materials

Inflation and Contact Predictions of Composite Tire Shell Carcass C87-136
Aeroelastic Tailoring of Aft-Swept High-Aspect-Ratio Composite Wings C87-132
Buckling, Postbuckling, and Failure of Stiffened Panels Under Shear and Compression C87-131
Aeroelastic Stability Characteristics of a Composite Swept Wing with Tip Weights for an Unrestrained Vehicle C87-130
Dynamic Buckling of Imperfection-Sensitive Shell Structures C87-119
Experimental Aeroelastic Behavior of Forward-Swept Graphite/Epoxy Wings with Rigid-Body Freedom C87-068
Response of Double-Wall Composite Shells to Random Point Loads C87-035
Ingot Metallurgy Aluminum-Lithium Alloys for Aircraft Structure C87-033

Structural Design

Inflation and Contact Predictions of Composite Tire Shell Carcass C87-136
Buckling, Postbuckling, and Failure of Stiffened Panels Under Shear and Compression C87-131
Reduction of the Ultimate Factor by Applying a Maximum Load Concept C87-125
Dynamic Buckling of Imperfection-Sensitive Shell Structures C87-119
Residual Stresses in 2024-T81 Aluminum Using Caustics and Moiré Interferometry C87-072
Shaping of Airplane Fuselages for Minimum Drag C87-043

Structural Durability (including Fatigue and Fracture)

Residual Stresses in 2024-T81 Aluminum Using Caustics and Moiré Interferometry C87-072
Durability Under Repeated Buckling of Stiffened Shear Panels C87-001

Structural Dynamics

Damping in Beams with Multiple Dry Friction Supports C87-133
Structural Influence of the Cabin Floor on Sound Transmission into Aircraft--Analytical Investigations C87-121
Structural Dynamics in a Full-Scale Transport Aircraft Crash Test C87-067
Structural Analysis of the Controlled Impact Demonstration of a Jet Transport Airplane C87-036
Comparison of the Craig-Bampton and Residual Flexility Methods of Substructure Representation C87-034
Bending Effects on Structural Dynamic Instabilities of Transonic Wings C84-151

Structural Stability

Buckling, Postbuckling, and Failure of Stiffened Panels Under Shear and Compression C87-131
Durability Under Repeated Buckling of Stiffened Shear Panels C87-001

Structural Statics

Inflation and Contact Predictions of Composite Tire Shell Carcass C87-136
Dynamic Buckling of Imperfection-Sensitive Shell Structures C87-119

Measured and Calculated Stress in a Ribbon Parachute Canopy C87-010

Thermophysics and Thermochemistry

Radiatively Coupled Flows and Heat Transfer

Pool Fires in a Simulated Aircraft Cabin Interior with Ventilation C87-070

Thermal Modeling and Analysis

Aerothermodynamics of Transatmospheric Vehicles C87-100
Automated Thermal and Reliability Analysis of Avionics Designs C87-081

Thermophysical Properties of Matter

A Heater Made from Graphite Composite Material for Potential Deicing Application C87-120

Author Index

Adelman, H. G., C87-100
Agarwal, R. K., C87-030
Ahmed, O. A., C87-111
Ahuja, K. K., C87-009
Albright, J. E., C87-133
Anderson, J. D, Jr., C87-092
Appa, K., C87-116
Arnold, R. R., C87-131
Arora, J. S., C87-123
Ashill, P. R., C87-069
Atta, E., C87-022
Bach, R. E., Jr., C87-129
Back, L. H., C87-070
Baker, M., C87-034
Ball, D. N., C87-021
Bankston, C. P., C87-070
Barbi, C., C87-064
Bartsch, O., C87-125
Beckwith, I. E., C87-118
Beeler, G. B., C87-027
Bennett, R. M., C87-057
Bergmann, H., C87-125
Bertelrud, A., C87-042
Bevan, D., C87-046
Bilanin, A. J., C87-006
Bindolino, G., C87-052
Birckelbaw, L., C87-022
Bofilios, D. A., C87-035
Bowles, R. L., C84-145
Bragg, M. B., C87-037, C87-044
Brown, G. V., C87-050
Brown, W. H., C87-009
Buche, J., C87-079
Burkhalter, J. E., C87-025
Burkhard, A. H., C87-082
Bütefisch, K. A., C87-128
Cantwell, B. J., C87-087
Carlin, G. J., Jr., C87-046
Carlson, L. A., C87-013
Castex, A., C87-064
Catalano, G. D., C87-110
Cebeci, T., C87-089
Chaderjian, N. M., C87-004
Chakravarthy, S. R., C84-151, C87-011
Chang, K. C., C87-089
Chang, R. C., C87-020
Chellman, D. J., C87-033
Chen, F. J., C87-118
Chen, G., C87-068
Chin, Y., C87-063
Cho, Y. I., C87-070
Choi, H. S., C87-081
Christodoulou, T., C87-103
Clark, R. W., C87-089
Cohen, I., C87-079
Coirier, W. J., C87-037
Cole, J. D., C84-151, C87-024
Cosentino, G. B., C86-029
Costes, M., C87-105
Craig, A. P., C87-091
Creel, T. R., Jr., C87-118
Dalton, C., C86-102
Daly, J. J., C87-058
de Jong, R. C., C87-053
Deese, J. E., C87-030
Deloach, R., C87-101
Dietz, D. C., C87-080
Digney, J. R., C87-047
Dillehay, M. E., C87-120
Dimmick, R. L., C87-114
DiRe, J. D., C87-081
Dodbele, S. S., C87-043
Doviak, R. J., C87-045
Dowell, E. H., C87-133
Drummond, C. K., C87-040
D'Sa, J. M., C86-102
Dugundji, J., C87-068
Eckstrom, C. V., C87-029
Eggleston, B., C87-059
Eilts, M. D., C87-045
Ekvall, J. C., C87-033
Emsley, H. T., C87-106
Erickson, L. E., C84-151
Erickson, L. L., C87-088
Ericsson, L. E., C87-005, C87-023, C87-135
Etkin, B., C84-145, C86-035
Everton, E. L., C87-139
Fasanella, E. L., C87-036
Favier, D., C87-064
Feistel, T. W., C87-039
Flores, J., C87-004
Franks, D. E., C87-081
Fremaux, C. M., C87-110
Frost, W., C84-145
Fuller, C. R., C87-121
Gall, P. D., C87-085
Garcia-Fogeda, P., C87-134
Garrard, W. L., C87-010
Goebel, T. P., C84-151
Goorjian, P. M., C87-115
Graber, A., C87-041
Graham, D. R., C87-138
Gravelle, A., C87-105
Green, J. A., C87-132
Gregorek, G. M., C87-044
Gundy, K. L., C87-004
Guruswamy, G. P., C87-115
Hahn, K.-U., C87-090
Hahne, D. E., C87-113
Hall, D. H., C87-078
Hall, R. M., C87-107
Halsey, N. D., C87-089
Hansman, R. J., Jr., C87-091
Hardin, J. C., C87-016
Hassan, H. A., C87-112
Hayduk, R. J., C87-067
Hoelmer, W., C87-018
Holmes, B. J., C87-043
Holst, T. L., C86-029, C87-004, C87-026, C87-087
Houck, J. A., C87-101
Howlett, J. T., C87-122
Huffman, J. K., C87-113
Hung, C., C87-120
Ivan, M., C86-035
Iversen, J. D., C87-127
Jacob, K., C87-017
Jang, S. K., C87-084
Johnson, T. D., Jr., C87-113
Jones, D. J., C87-059
Joppa, P. D., C87-099
Jumper, E. J., C87-114
Kalviste, J., C87-086
Kammer, D. C., C87-034
Kapania, R. K., C87-119
Karamcheti, K., C87-094
Katz, J., C87-039
Kaynak, U., C87-004
Kaynak, Ünver, C87-087
Kaza, K. R. V., C87-050
Khalid, M., C87-059
Knowles, K., C87-056
Kollet, M., C87-001
Konicke, M. L., C87-010
Korkan, K. D., C87-126
Kothari, A. P., C87-092
Kudlinski, R. A., C87-139
Kuhlman, J. M., C86-102
Kurylowich, G., C87-082
Lamkin, S. L., C87-016
Lan, C. E., C87-071
Larson, E. S., C87-048
Lavan, C. K., C87-040
Lawrence, C., C87-050
Lee, C. S., C87-102
Lee, D. C. L., C87-054
Lee, J. T., C87-045
Lee, S. C., C87-026
Leftheris, B. P., C87-072
Libai, A., C87-001
Liu, D. D., C87-134
Lock, R. C., C86-029
Loth, E., C87-019
Lottati, I., C87-008, C87-130
Lyle, K. H., C87-109
Mabey, D. G., C87-057, C87-069
Madson, M. D., C87-088
Malmuth, N., C87-024
Malmuth, N. D., C84-151
Malone, J. B., C87-002, C87-003
Mantegazza, P., C87-052
Marchman, J. F., C87-014
Marchman, J. F., III, C87-106
Maresca, C., C87-064
Mateescu, D., C87-031
McComb, H. G., Jr., C87-067
McCormick, B. W., C87-019
McGinley, C. B., C87-027
McMillin, S. N., C87-137
Menees, G. P., C87-100
Miller, M. S., C87-025
Miller, T. L., C87-126
Mixson, J. S., C87-109
Mokry, M., C87-047
Moskovitz, C., C87-032
Mueller, T. J., C87-108
Muirhead, V. U., C87-020
Mulder, J. A., C87-053
Muramoto, K. K., C87-010
Murri, D. G., C87-032
Nagati, M. G., C87-127
Nissim, E., C87-008
Nixon, D., C87-117
Oh, S., C87-051
Pamadi, B. N., C87-012
Parekh, J. C., C87-131
Park, G. J., C87-123
Parks, E. K., C87-129
Perry, M. L., C87-108
Philippe, J. J., C87-105
Pittman, J. L., C87-049, C87-140
Platzer, M. F., C87-063
Poole, R. J. D., C87-047, C87-059
Pordal, H. S., C87-012
Posnett, W. L., III, C87-063
Prabhu, K. R., C87-060
Ragab, S., C87-022
Rao, D. M., C87-032
Raynal, J. C., C87-018
Reddy, C. S., C87-028
Rice, F. A., II, C87-021
Ridder, S. O., C87-042
Roberts, L., C87-102
Robertson, E. A., C87-106
Robinson, M. P., C87-036
Rosen, A., C87-041
Rajeswari, B., C87-060
Rangwalla, A. A., C87-093
Rossow, V. J., C87-065
Roy, D., C87-098
Sachs, G., C87-103
Saigal, S., C87-119, C87-136
Salikuddin, M., C87-009
Sanford, M. C., C87-029
Sankar, L. N., C87-002, C87-003
Sarpkaya, T., C87-058
Schreck, S. J., C87-114
Schuster, D., C87-003
Schwarz, R., C87-072
Sears, W. R., C87-054
Seidel, D. A., C87-029
Sensburg, O., C87-125
Shakkottai, P., C87-070
Shaw, R. J., C87-126
Shivashankara, B. N., C87-124
Singer, J., C87-001
Siuru, W. D., Jr., C87-061
Smith, G. E., C87-104, C87-112
Smith, H. C., C87-085
Smith, R. E., C87-139
Soedel, W., C87-136
Sorenson, R. L., C87-087
Spearman, M. L., C87-141
Stahl, M., C87-120
Stanewsky, E., C87-128
Striz, A. G., C87-084
Stroub, R. H., C87-138
Stubbs, G. W., C87-124
Su, I., C87-071
Subrahmanyam, K. B., C87-050
Szema, K., C87-011
Tang, D. M., C87-133
Tauber, M. E., C87-095, C87-100
Tavella, D., C87-051
Tavella, D. A., C87-094, C87-102
Thomas, S. D., C87-004, C87-026
Thomson, R. G., C87-067
Tinoco, E. N., C87-021
Treviño, G., C87-038
Triebstein, H., C87-105
Tu, E. L., C87-115
Tzuoo, K. L., C87-117
Unruh, J. F., C87-066
Vadyak, J., C87-002
Vaicaitis, R., C87-035
van Dam, C. P., C87-015, C87-043
Vasta, V. N., C87-055
Vice, J. M., C87-083
Vijgen P. M. H. W., C87-043
Vogel, J. M., C87-127
Vogel, S., C87-105
Walkley, K. B., C87-104
Weibust, E., C87-042
Weller, T., C87-001
Welsh, B. L., C87-069
Whitlow, W., Jr., C87-112
Widmayer, E., C87-036
Wiese, M. R., C87-139
Wilson, L. N., C87-093
Woo, A. C., C87-088
Wood, N. J., C87-007, C87-102
Wood, R. M., C87-137
Wu, C. C., C87-024
Wu, K. S., C87-010
Wynne, E. C., C87-057
Yang, T. Y., C87-119, C87-136
Young, L. A., C87-138
Younghans, J. L., C87-018
Zrnic, D. S., C87-045